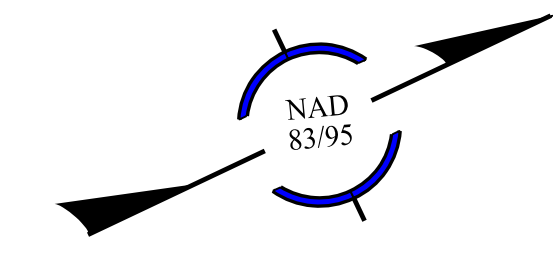
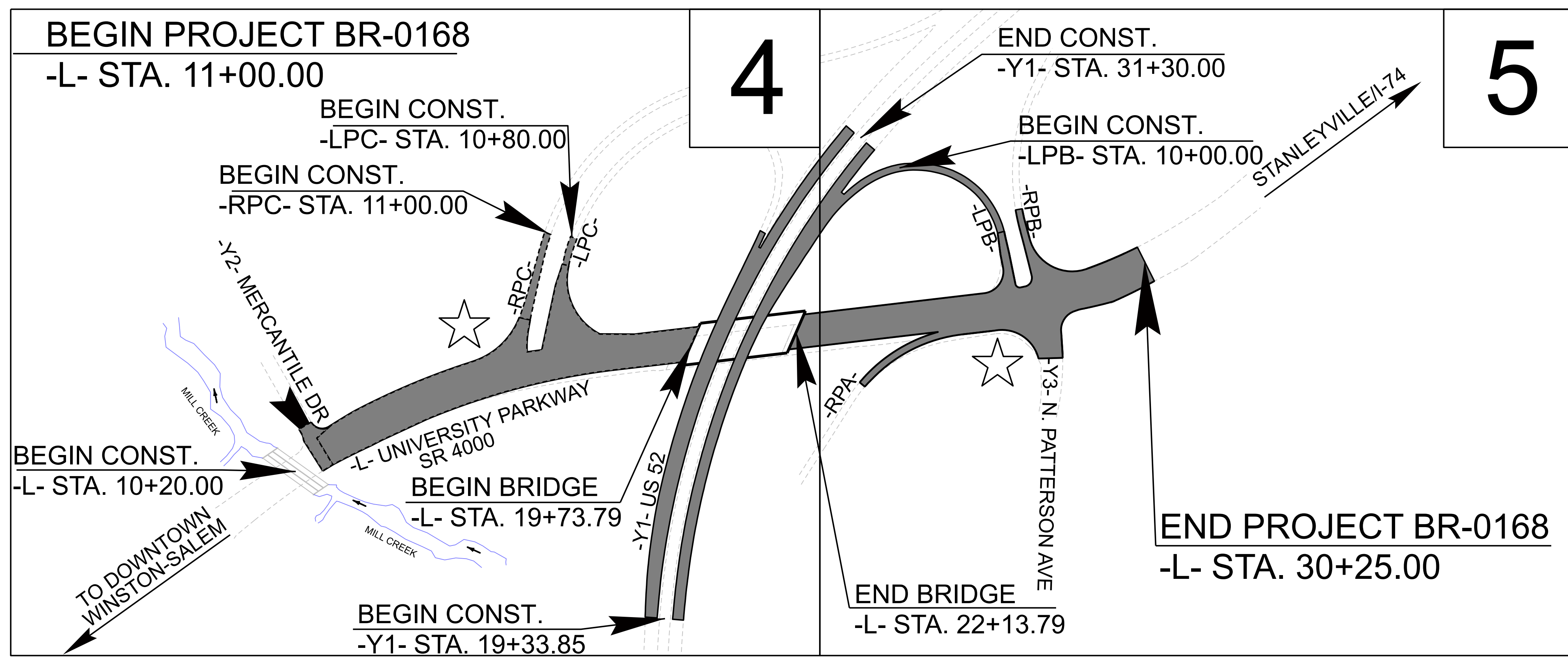


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0168	EC-1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
67168.1.1		P.E.	

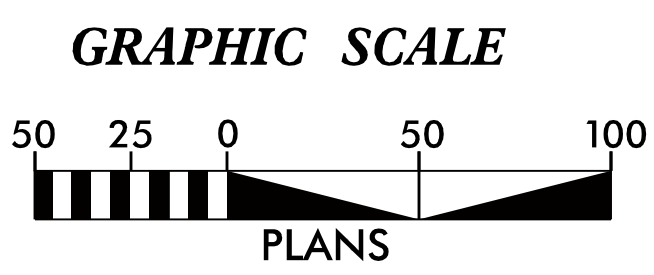
TIP PROJECT: BR-0168

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL
 FORSYTH COUNTY

LOCATION: *REPLACE BRIDGE 330289 ON SR 4000 (UNIVERSITY PARKWAY) OVER US 52*
 TYPE OF WORK: *GRADING, PAVING, DRAINAGE, SIGNALS, AND STRUCTURE*



THIS PROJECT CONTAINS
 EROSION CONTROL PLANS
 FOR CLEARING AND
 GRUBBING PHASE OF
 CONSTRUCTION.



THESE EROSION AND SEDIMENT CONTROL PLANS
 COMPLY WITH THE REGULATIONS SET FORTH BY
 THE NCG-010000 GENERAL STORMWATER CONSTRUCTION
 PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT
 OF ENVIRONMENTAL QUALITY DIVISION OF ENERGY,
 MINERAL, AND LAND RESOURCES.

Prepared in the Office of:
ROADSIDE ENVIRONMENTAL UNIT
 1 South Wilmington St.
 Raleigh, NC 27611
 2024 STANDARD SPECIFICATIONS
 Designed by:
WYATT D. YELVERTON, PE 3609
 NAME LEVEL III CERTIFICATION NO.

Roadway Standard Drawings
 The "Roadway Standard Drawings"- Roadway Design Unit - N. C.
 Department of Transportation - Raleigh, N. C., dated January 2024
 and the latest revision thereto are applicable to this project and by
 reference hereby are considered a part of these plans.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

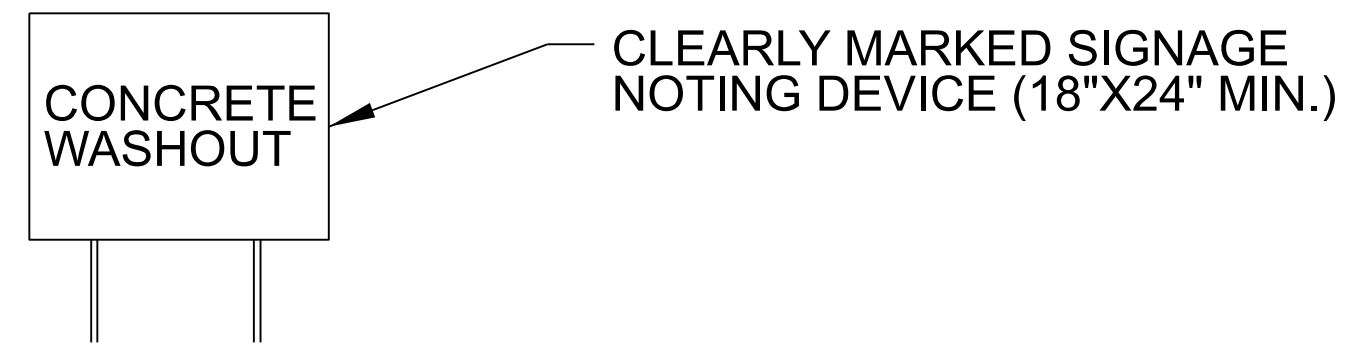
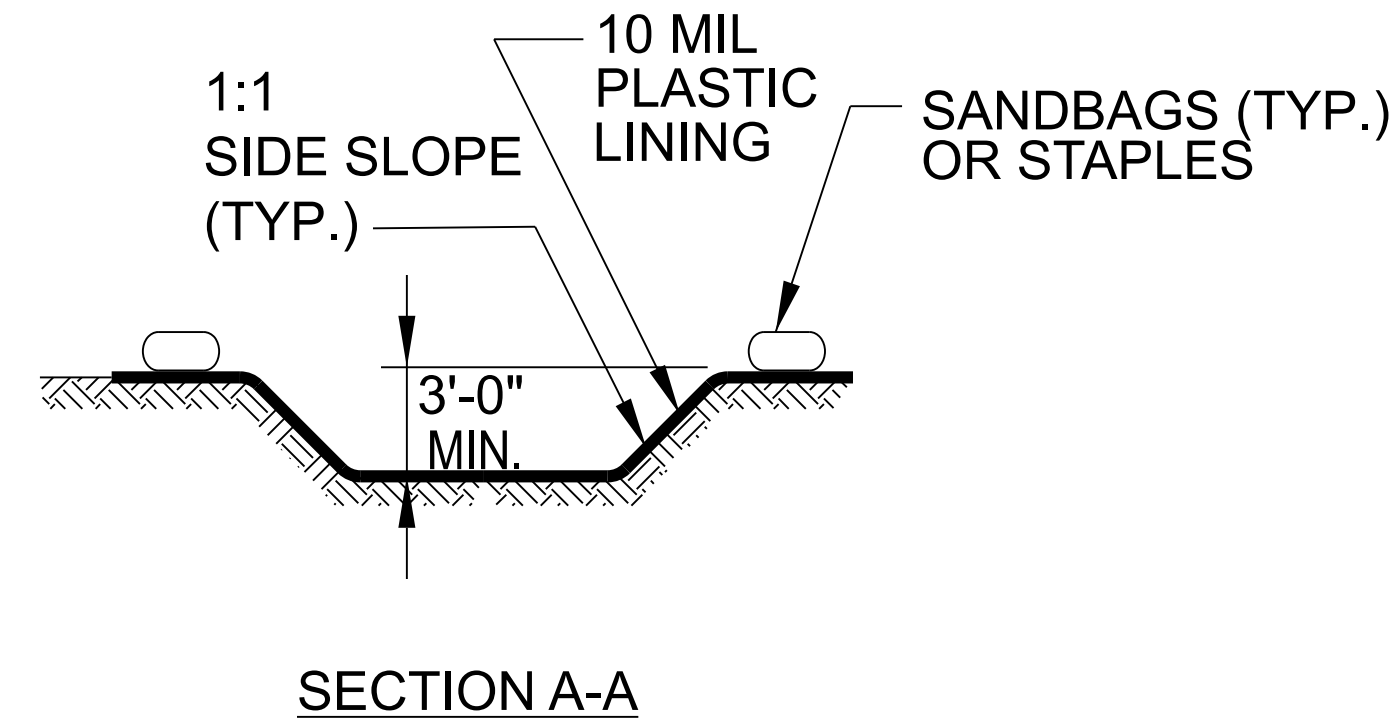
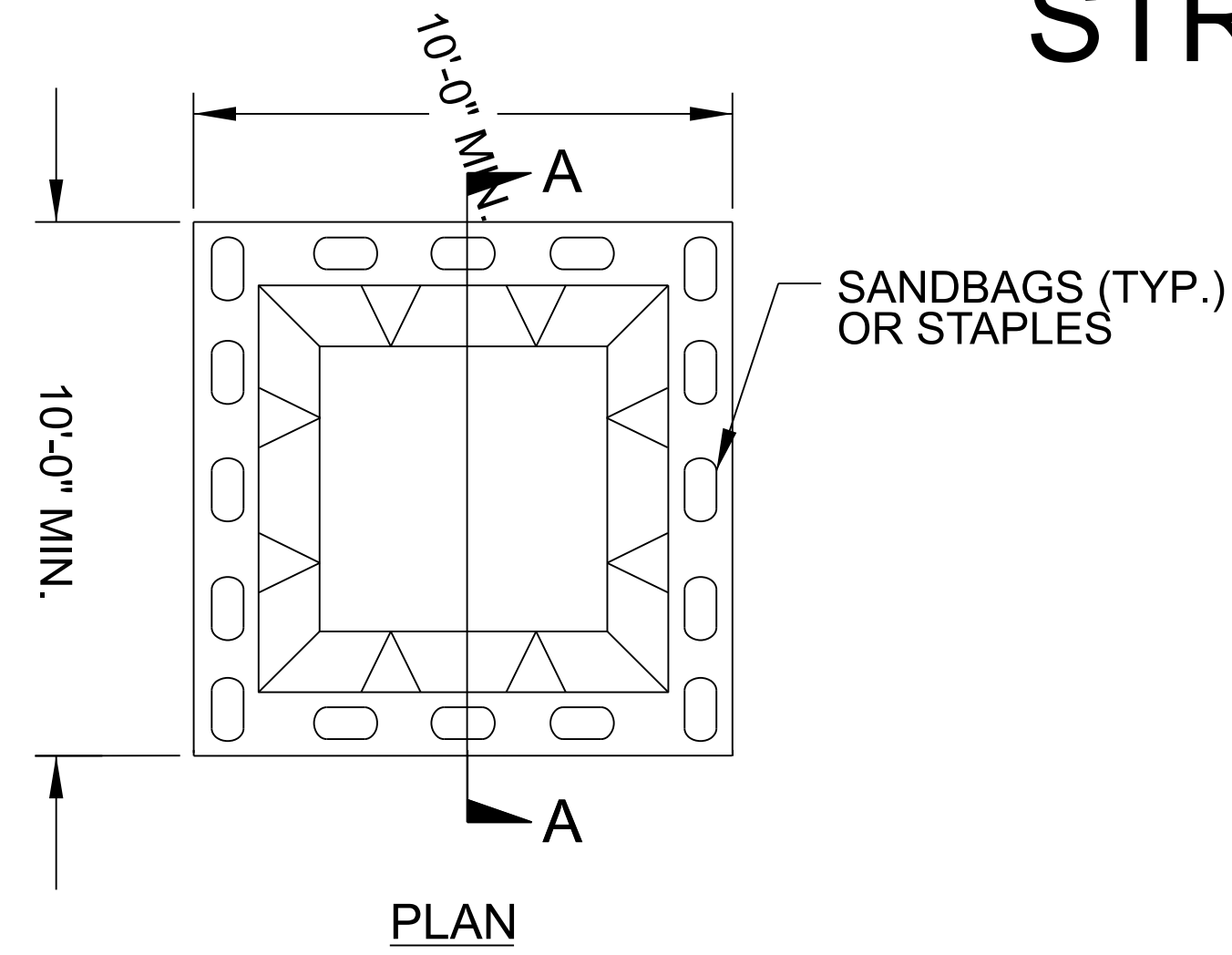
PROJECT REFERENCE NO.	SHEET NO.
BR-0168	EC-02

EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol	Std. #	Description	Symbol
1605.01	Temporary Silt Fence		1633.01	Temporary Rock Silt Check Type A	
1606.01	Special Sediment Control Fence		1633.02	Temporary Rock Silt Check Type B	
1622.01	Temporary Berms and Slope Drains		1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1630.02	Silt Basin Type B		1634.01	Temporary Rock Sediment Dam Type A	
1630.03	Temporary Silt Ditch		1634.02	Temporary Rock Sediment Dam Type B	
1630.04	Stilling Basin		1635.01	Rock Pipe Inlet Sediment Trap Type A	
1630.05	Temporary Diversion		1635.02	Rock Pipe Inlet Sediment Trap Type B	
1630.06	Special Stilling Basin		1636.01	Excelsior Wattle Check	
1630.07	Skimmer Basin		1636.01	Excelsior Wattle Check with Flocculant	
1630.08	Tiered Skimmer Basin		1636.01	Coir Fiber Wattle Check	
1630.09	Earthen Dam with Skimmer		1636.01	Coir Fiber Wattle Check with Flocculant	
	Infiltration Basin		1636.02	Silt Fence Excelsior Wattle Break	
	Rock Inlet Sediment Trap:			Silt Fence Coir Fiber Wattle Break	
1632.01	Type A		1636.03	Excelsior Wattle Barrier	
1632.02	Type B		1636.03	Coir Fiber Wattle Barrier	
1632.03	Type C				

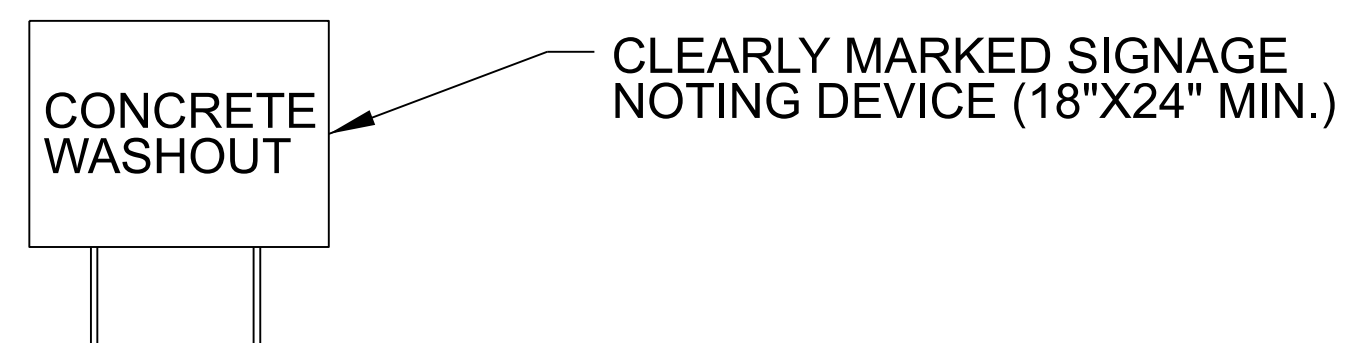
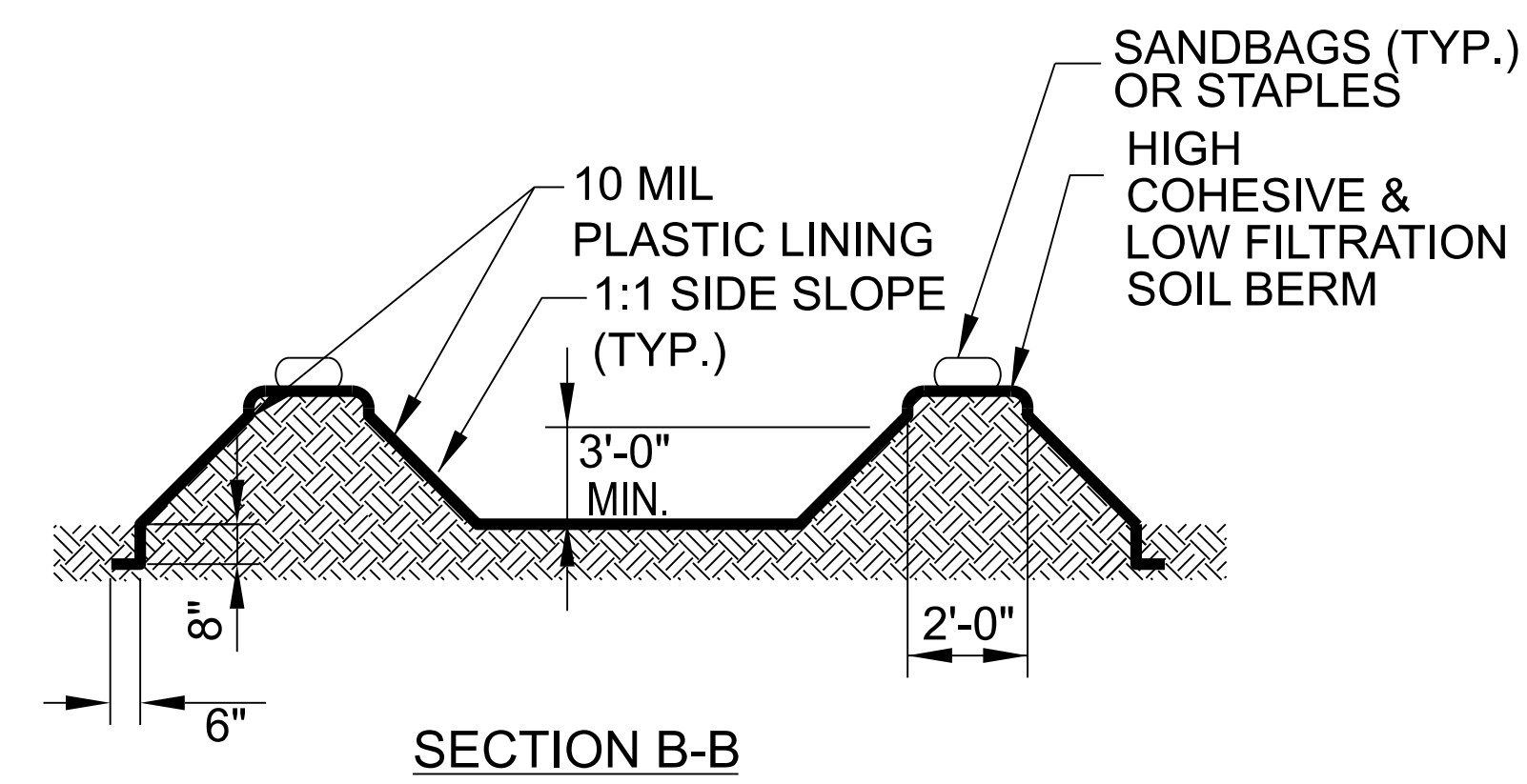
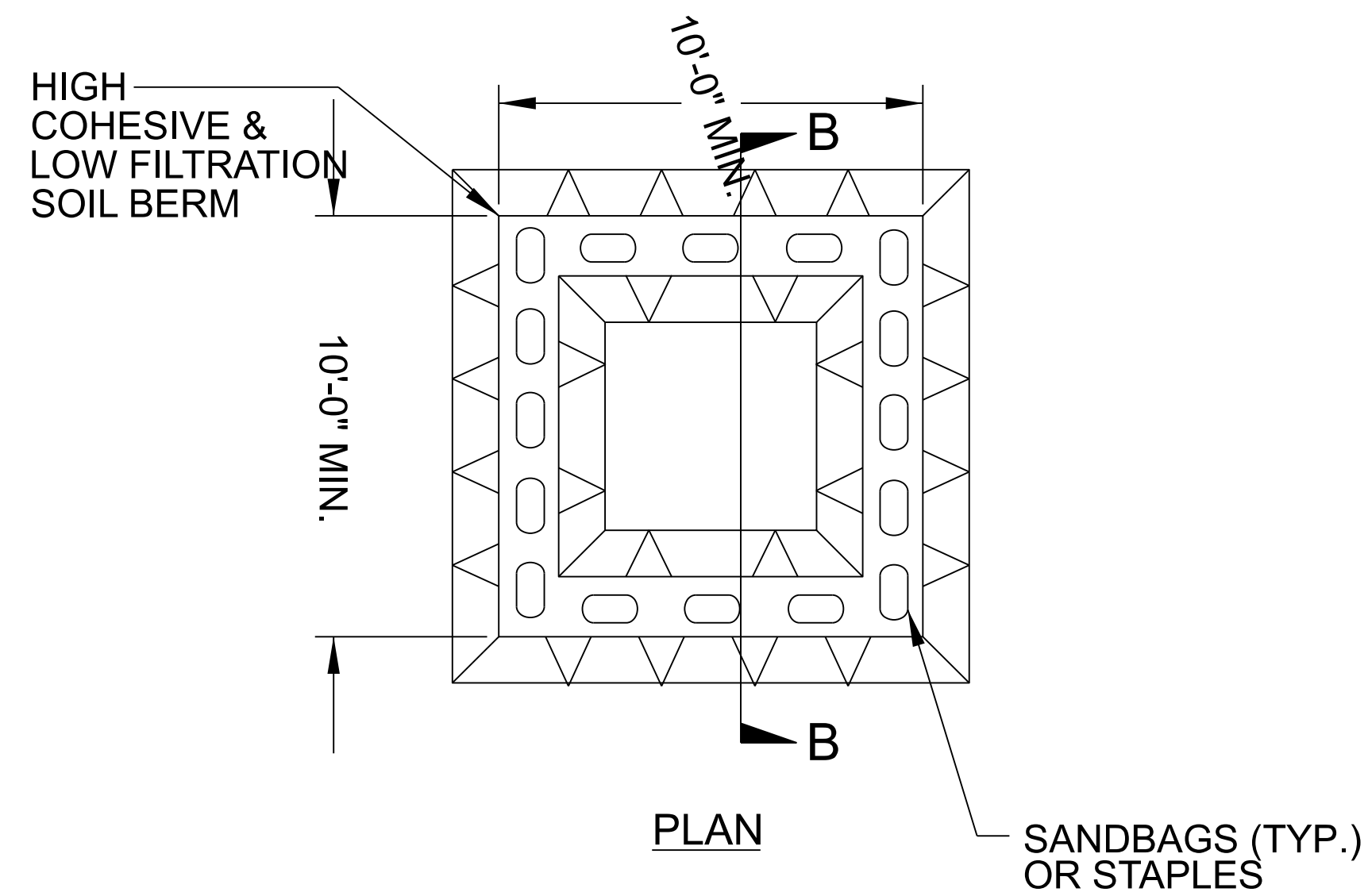
PROJECT REFERENCE NO.	SHEET NO.
BR-0168	EC-2A

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

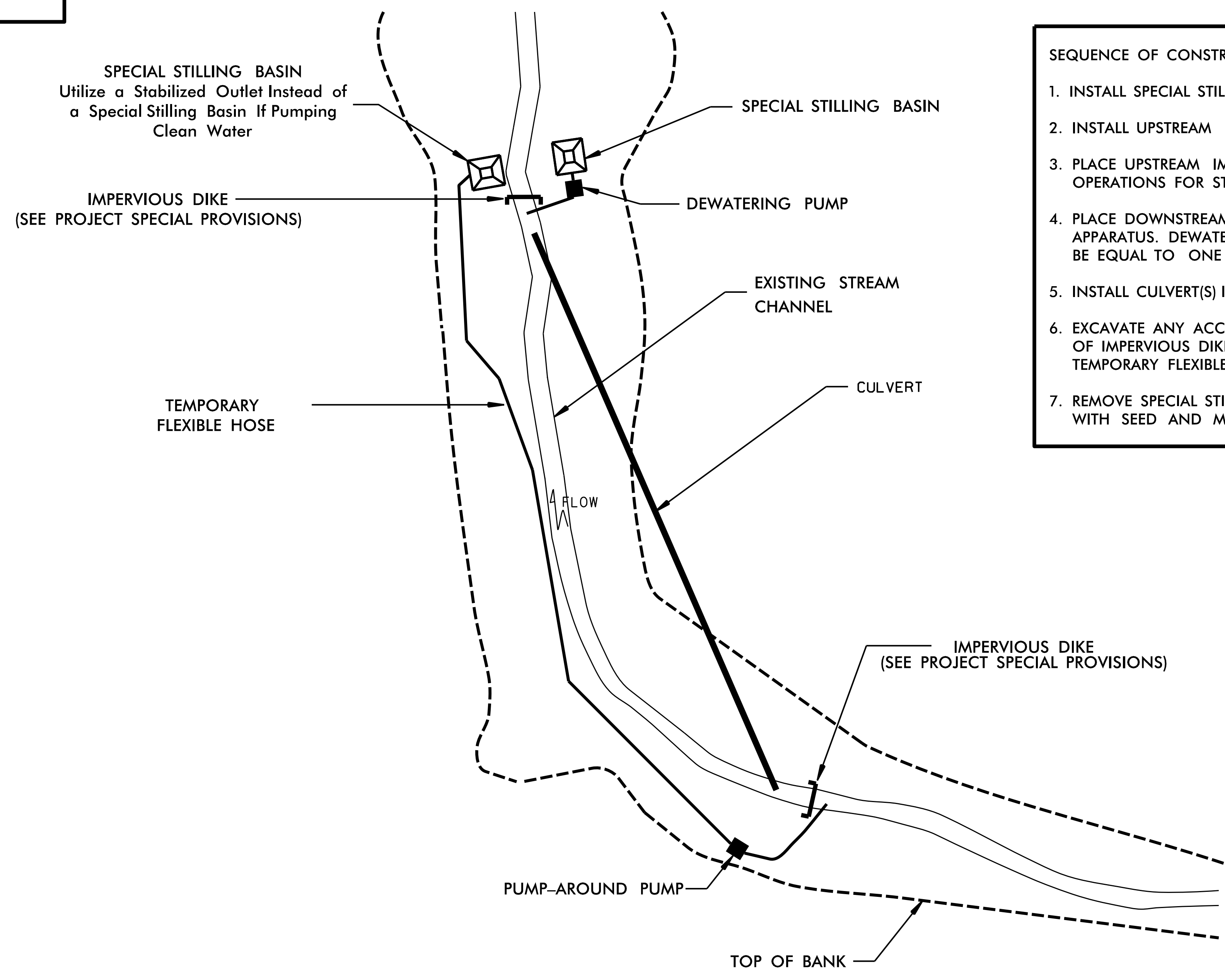


ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:**
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

EXAMPLE OF PUMP-AROUND OPERATION

- NOTES:
- 1) All excavation shall be performed in only dry or isolated areas of the work zone.
 - 2) Impervious dikes are to be used to isolate work from stream flow when necessary.
 - 3) Maintenance of stream flow operations shall be incidental to the work. This includes polyethylene sheeting, diversion pipes, pumps and hoses.
 - 4) Pumps and hoses shall be of sufficient size to dewater the work area.



- SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA
1. INSTALL SPECIAL STILLING BASIN(S).
 2. INSTALL UPSTREAM PUMP AND TEMPORARY FLEXIBLE HOSE.
 3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
 4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
 5. INSTALL CULVERT(S) IN ACCORDANCE WITH THE PLANS.
 6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
 7. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
BR-0168	EC-3

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL (DITCHES)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-RPB-	13+25	14+12	LT	80

MATTING FOR EROSION CONTROL (SLOPES)

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	11+00	12+50	RT	483
4	-L-	17+50	19+25	RT	500
4	-L-	19+50	20+00	LT	185
4	-L-	22+00	22+50	RT	28
4	-L-	22+50	23+00	LT	290
5	-L-	23+00	26+75	LT	715
5	-RPB-	13+25	14+12	LT	208
5	-L-	13+25	14+12	LT	80
SUBTOTAL (SLOPES)					2489
SUBTOTAL (DITCHES)					80
MISC. MATTING TO BE INSTALLED AS DIRECTED BY ENGINEER					8900
TOTAL					11469
SAY					11470

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO.	SHEET NO.
<i>BR-0168</i>	<i>EC-3A</i>

SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES



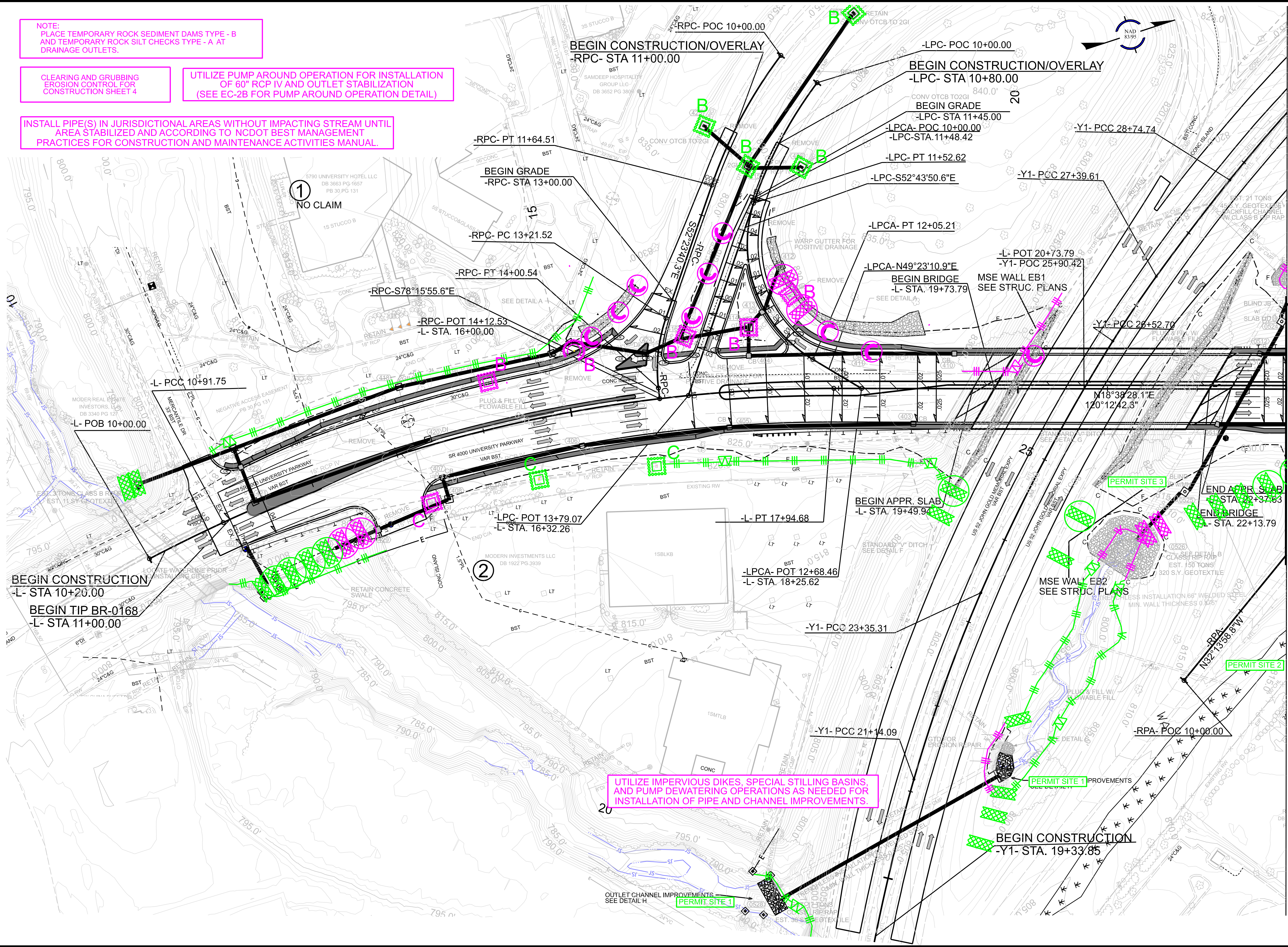
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

UTILIZE PUMP AROUND OPERATION FOR INSTALLATION
OF 60" RCP IV AND OUTLET STABILIZATION
(SEE EC-2B FOR PUMP AROUND OPERATION DETAIL)

INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL
AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT
PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

UTILIZE IMPERVIOUS DIKES, SPECIAL STILLING BASINS,
AND PUMP DEWATERING OPERATIONS AS NEEDED FOR
INSTALLATION OF PIPE AND CHANNEL IMPROVEMENTS.



NO CLAIM

BEGIN CONSTRUCTION
-L- STA 10+20.00
BEGIN TIP BR-0168
-L- STA 11+00.00

BEGIN GRADE
-RPC- STA 13+00.00

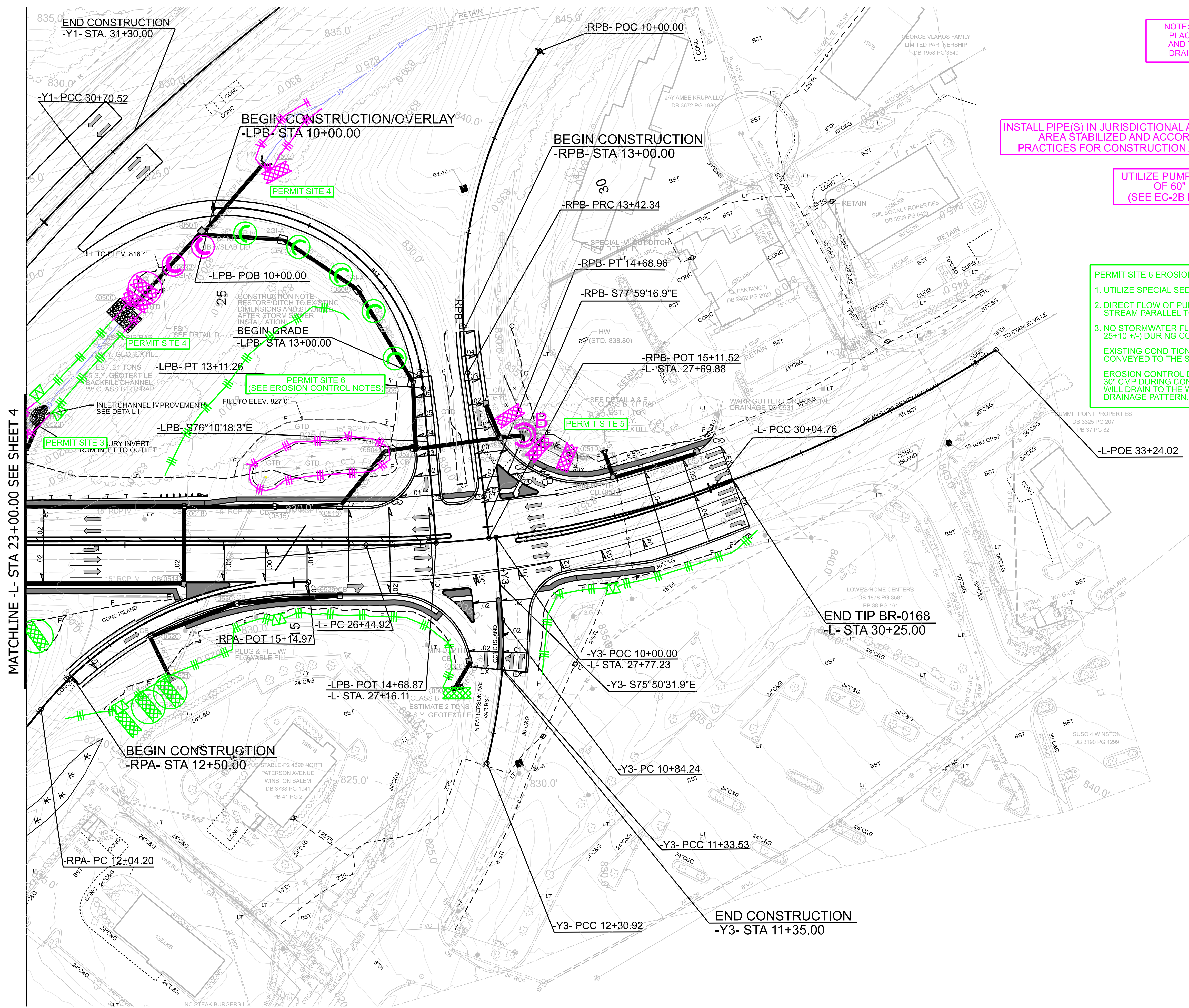
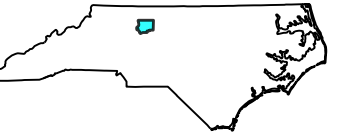
BEGIN CONSTRUCTION/OVERLAY
-LPC- STA 10+80.00

BEGIN APPR. SLAB
-L- STA. 19+49.94

BEGIN CONSTRUCTION
-Y1- STA. 19+33.85

MATCHLINE -L- STA 23+00.00 SEE SHEET 5

REVISIONS



NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 5

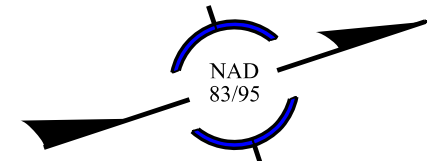
INSTALL PIPE(S) IN JURISDICTIONAL AREAS WITHOUT IMPACTING STREAM UNTIL
AREA STABILIZED AND ACCORDING TO NCDOT BEST MANAGEMENT
PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL.

UTILIZE PUMP AROUND OPERATION FOR INSTALLATION
OF 60" RCP IV AND OUTLET STABILIZATION
(SEE EC-2B FOR PUMP AROUND OPERATION DETAIL)

PERMIT SITE 6 EROSION CONTROL NOTES:
1. UTILIZE SPECIAL SEDIMENT BASIN(S) WHILE DEWATERING PONDED AREA.
2. DIRECT FLOW OF PUMPED EFFLUENT TO DRAIN TOWARD RECEIVING
STREAM PARALLEL TO Y1 (US 52).
3. NO STORMWATER FLOW IS TO BE CONVEYED BY EXISTING 30" CMP (-L- STA.
25+10 +/-) DURING CONSTRUCTION OF PROJECT.

EXISTING CONDITIONS FOR THE 30" CMP ARE THAT NO WATER IS BEING
CONVEYED TO THE SOUTHEAST WETLAND AREA ALONG -RPA- RIGHT.

EROSION CONTROL DESIGN ASSUMES NO FLOW THROUGH THE EXISTING
30" CMP DURING CONSTRUCTION AND THAT ALL CONSTRUCTION STORMWATER
WILL DRAIN TO THE WEST (ALONG -LPB-) AS WITH THE PERMANENT
DRAINAGE PATTERN.

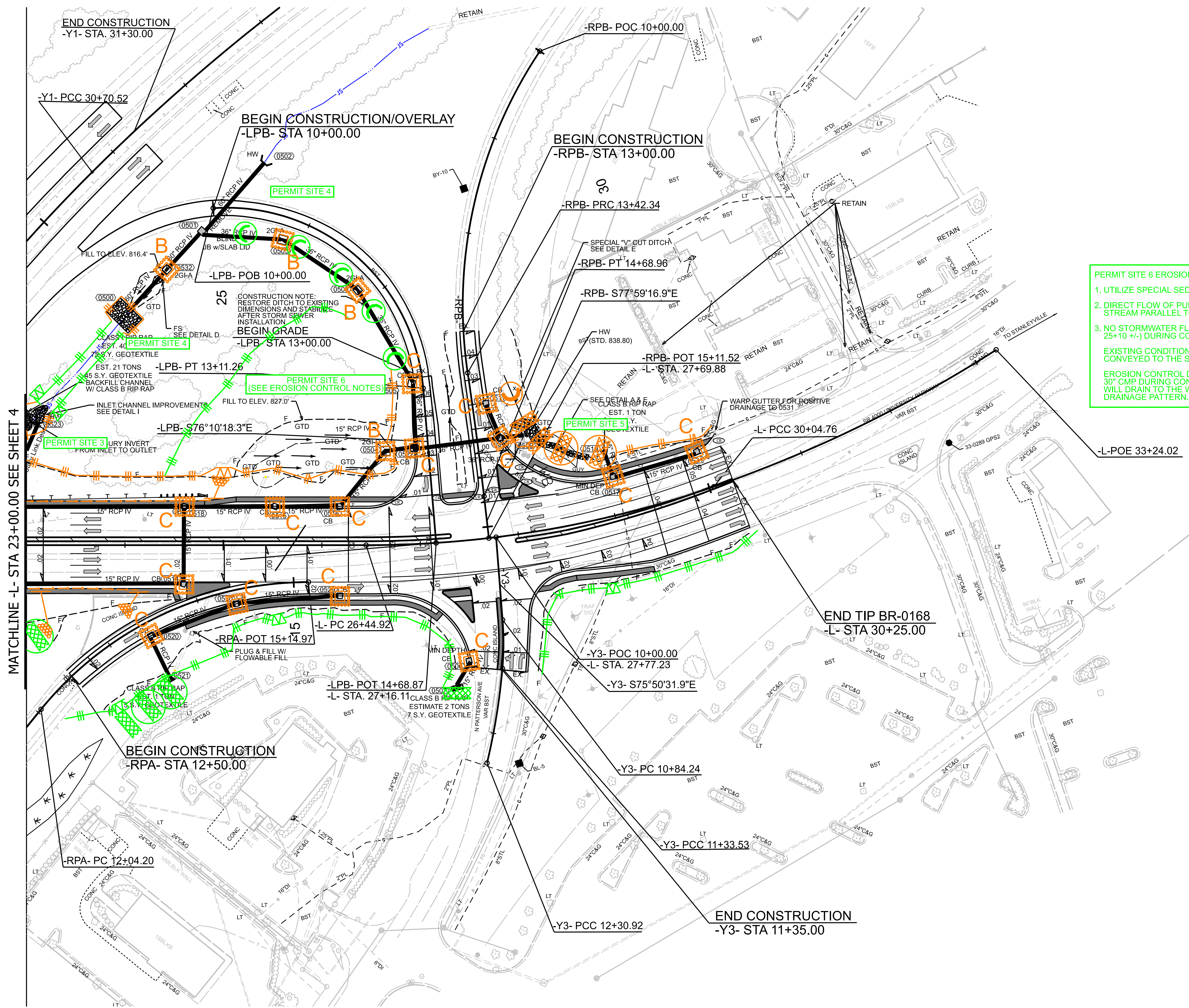
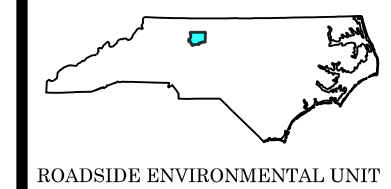


MATCHLINE -L- STA 23+00.00 SEE SHEET 4

END TIP BR-0168
-L- STA 30+25.00

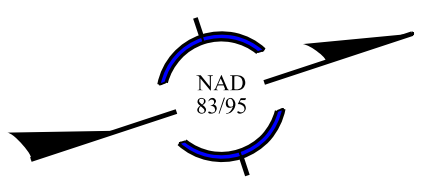
END CONSTRUCTION
-Y3- STA 11+35.00

REVISIONS



Place Matting for Erosion Control
on Slope as Work Allows.
(See EC-3 for Locations)

PERMIT SITE 6 EROSION CONTROL NOTES:
1. UTILIZE SPECIAL SEDIMENT BASIN(S) WHILE DEWATERING PONDED AREA.
2. DIRECT FLOW OF PUMPED EFFLUENT TO DRAIN TOWARD RECEIVING STREAM PARALLEL TO Y1 (US 52).
3. NO STORMWATER FLOW IS TO BE CONVEYED BY EXISTING 30" CMP (-L- STA. 25+10 +/-) DURING CONSTRUCTION OF PROJECT.
EXISTING CONDITIONS FOR THE 30" CMP ARE THAT NO WATER IS BEING CONVEYED TO THE SOUTHEAST WETLAND AREA ALONG -RPA- RIGHT.
EROSION CONTROL DESIGN ASSUMES NO FLOW THROUGH THE EXISTING 30" CMP DURING CONSTRUCTION AND THAT ALL CONSTRUCTION STORMWATER WILL DRAIN TO THE WEST (ALONG -LPB-) AS WITH THE PERMANENT DRAINAGE PATTERN.



MATCHLINE -L- STA 23+00.00 SEE SHEET 4

REVISIONS

END CONSTRUCTION
-Y3- STA 11+35.00

END TIP BR-0168
-L- STA 30+25.00

END CONSTRUCTION
-Y1- STA. 31+30.00

BEGIN CONSTRUCTION/OVERLAY
-LPB- STA 10+00.00

BEGIN CONSTRUCTION
-RPB- STA 13+00.00

BEGIN CONSTRUCTION
-RPA- STA 12+50.00

BEGIN GRADE
-LPB- STA 13+00.00